CLAIMS

What is claimed is:

1   1.   A method of switching on an inductive load, a current of which is intended

2   to repeatedly reach an end current value at desired time, comprising the steps of:

3   a.   measuring a time interval between a switching on time of the inductive load

4   and a time that at least one intermediate current value of the current through the inductive load is

5   reached;

6   b.   using the time interval measured in said step a. and the at least one

7   intermediate current value to calculate an end current time interval from the switching-on time

8   until the end current value is reached; and

9   c.   performing a switching-on of the inductive load at the end current time

10   interval before the desired time.

1   2.   The method of claim 1, wherein said step b. comprises using a function

2   representing the rate of current rise in the inductive load when a constant voltage is applied for

3   calculating the end current time interval.

1   3.   The method of claim 2, wherein said step b. includes querying a memory

2   for determining the function representing the rate of current rise.

1   4.   The method of claim 2 wherein said step b. includes calculating the

2   function representing the rate of current rise from at least one intermediate current value and the

3　time interval between a switching-on time and the time at which at least one intermediate current

4　valve is reached.

1　　　　5.　The method of claim 1, where said step b. comprises using the time

2　interval measured in said step a. to calculate at least one parameter of a function and using the

3　function, the at least one parameter and the end current valve to calculate the end current time

4　interval.

1　　　　6.　The method of claim 5, wherein the function used in step b. comprises:

2　　　$i = î\,(1-e^{-t \cdot R/L})$

3　wherein:

4　　　i is the current at a time t;

5　　　î is the current reached at infinity;

6　　　R is the resistance; and

7　　　L is the inductance.

1　　　　7.　The method of claim 2, wherein the function used in said step b. is stored

2　as a table including a plurality of intermediate current values assigned to corresponding values of

3　end current time intervals.

1　　　　8.　The method of claim 3, wherein the function used in said step b. is stored

2　as a table including a plurality of intermediate current values assigned to corresponding values of

3　end current time intervals.

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1   9.   The method of claim 4, wherein the function used in said step b. is stored

2   as a table including a plurality of intermediate current values assigned to corresponding values of

3   end current time intervals.

1   10.   The method of claim 2, where step b. further includes determining a

2   correction value representing a curvature of the function and calculating the end current time

3   interval in accordance with the rule of three using the correction value.

1   11.   The method of claim 1, wherein said step b. comprises calculating the end

2   current time interval in accordance with the rule of three.